

IN THE CLAIMS

Please amend the claims as follows:

1. (currently amended) A method comprising:

-creating a control flow graph of a computer program having instruction sequences, said control flow graph including basic blocks of instructions, each basic block having a last instruction,

-traversing through the basic blocks in order to detect multiple occurrences of a same instruction sequence,

-creating a function including a longest sequence of last instruction sequences common to at least two basic blocks and which includes said last instruction for each of said at least two basic blocks, said longest sequence from a plurality of sequences of last instruction sequences common to said at least two basic blocks and having a common instruction sequence of equal or shorter length compared to said longest sequence, said longest sequence including the equal or shorter length sequences of said plurality of sequences, and

-replacing the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function.

2. (previously presented) A method of claim 1, wherein the blocks are traversed in a direction opposite to execution of said blocks.

3. (original) A method of claim 1, wherein said proper position is the position from which onward the sequence in the function matches with the original occurrence of the replaced instruction sequence.
4. (original) A method of claim 1, wherein said reference is substantially a function call or a branch instruction.
5. (previously presented) A method of claim 1, wherein said created function contains substantially the at least two basic blocks whereto said longest sequence belongs.
6. (canceled)
7. (original) A method of claim 1, wherein after creating the flow graph said basic blocks are divided into a plurality of block sets, said blocks in different sets comprising no common instruction sequences.
8. (currently amended) A computer program product comprising code stored on a readable medium for execution by a processing unit so as to carry out:
 - creating a control flow graph of a computer program having instruction sequences, said control flow graph including basic blocks of instructions, each basic block having a last instruction,
 - traversing through the basic blocks in order to detect multiple occurrences of a same instruction sequence,
 - creating a function including a longest sequence of last instruction sequences common to at least two basic blocks and which includes said last instruction for

each of said at least two basic blocks, said longest sequence from a plurality of sequences of last instruction sequences common to said at least two basic blocks and having a common instruction sequence of equal or shorter length compared to said longest sequence, said longest sequence including the equal or shorter length sequences of said plurality of sequences, and

-replacing the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function.

9. (previously presented) A carrier medium carrying a computer executable program for carrying out the method of claim 1.

10. (currently amended) An electronic device comprising:

- a processing unit,
- a memory for storing instructions and data, and
- a data transfer module for accessing data,

said device arranged to create a control flow graph of a computer program having instruction sequences, said control flow graph including basic blocks of instructions, each basic block having a last instruction, said device further arranged to traverse through the basic blocks in order to detect multiple occurrences of a same instruction sequence, to create a function including a longest sequence of last instruction sequences common to at least two basic blocks and which includes said last instruction for each of said at least two basic blocks, said longest sequence from a plurality of sequences having a common instruction sequence of equal or shorter length compared to said longest sequence, said longest sequence including the equal or shorter length sequences of said plurality of sequences and to replace the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function.

11. (previously presented) The electronic device of claim 10 further arranged so that the blocks are traversed in a direction opposite to execution of said blocks.

12. (previously presented) The electronic device of claim 10, arranged so that said proper position is the position from which onward the sequence in the function matches the original occurrence of the replaced instruction sequence.

13. (previously presented) The electronic device of claim 10, arranged so that said reference is substantially a function call or a branch instruction.

14. (previously presented) The electronic device of claim 10, arranged so that said created function contains substantially the at least two basic blocks whereto said longest sequence belongs.

15. (previously presented) The electronic device of claim 10, arranged so that after creating the flow graphs said basic blocks are divided into a plurality of block sets, said blocks in different sets comprising no common instruction sequences.

16. (currently amended) An electronic device comprising:

- means for processing,
- means for storing instructions and data, and
- means for accessing data,

said device arranged to create a control flow graph of a computer program having instruction sequences, said control flow graph including basic blocks of instructions, each basic block having a last instruction, said device further arranged to traverse through the basic blocks in order to detect multiple occurrences of a same instruction sequence, to create a function including a longest sequence of last instruction sequences common to at least two basic blocks and which includes said last instruction for each of said at least two basic blocks, said longest sequence

from a plurality of sequences having a common instruction sequence of equal or shorter length compared to said longest sequence, said longest sequence including the equal or shorter length sequences of said plurality of sequences and to replace the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function.

17.(previously presented) The electronic device of claim 16, wherein the blocks are traversed in a direction opposite to execution of said blocks.